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Date of Deposit: March 15, 2005

DPAS Rec'd PCT/PTO 15 MAR 2005

Attorney Docket No. 24348-501 NATL

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

10/501838

APPLICANTS : Ben-Sasson et al.  
SERIAL NUMBER : 10/501,838 EXAMINER : Not yet assigned  
FILING DATE : February 7, 2003 ART UNIT : Not Yet Assigned  
FOR : Amino Acid Sequences Capable of Facilitating Penetration Across a  
Biological Membrane

Mail Stop PCT  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

TRANSMITTAL

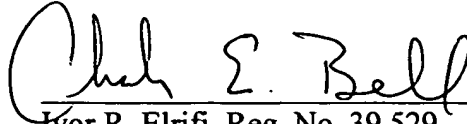
Transmitted herewith for filing in the above-referenced patent application are the following documents:

- ☒ Preliminary Amendment and Response to the Notification of Defective Response [3 pages];
- ☒ a copy of the Notification of Defective Response [2 pages];
- ☒ a copy of the Sequence Listing Error Report [11 pages];
- ☒ a Substitute copy of the Sequence Listing in CRF [2 disks in IBM format];
- ☒ a Substitute paper copy of the Sequence Listing [45 pages];
- ☒ a Statement in Support of Computer Readable Form Submission [1 page]; and
- ☒ a Return Postcard.

Although Applicants believe that no additional fees are due in connection with this submission, the Commissioner is authorized to credit any overpayment or charge any deficiencies to Deposit Account No. 50-0311, Reference No. 24348-501 NATL.

If the enclosed papers are considered incomplete, the Mail Room is respectfully requested to contact the undersigned collect at (617) 542-6000, Boston, Massachusetts.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Charles E. Bell", written over a horizontal line.

Ivor R. Elrifi, Reg. No. 39,529

Charles E. Bell, Reg. No. 48,128

Attorneys for Applicants

MINTZ, LEVIN, COHN, FERRIS,

GLOVSKY and POPEO, P.C.

Tel: (617) 542-6000

Fax: (617) 542-2241

**Customer No. 30623**

Dated: March 15, 2005

TRA 2016927v1

**STIC Biotechnology Systems Branch**

**RAW SEQUENCE LISTING**  
**ERROR REPORT**

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/501,838  
Source: PG/10  
Date Processed by STIC: 1/26/05

**THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.**

**PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:**

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

**FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221**

**TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:**

**<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>**

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebs/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):  
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/24/05

*Please mail this report with the qrb notice  
Thanks.*

**Winston Alvarado**  
**National Stage Processing**  
**Patent Specialist**

# Raw Sequence Listing Error Summary

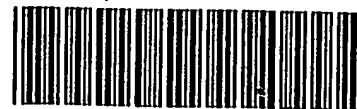
## ERROR DETECTED

## SUGGESTED CORRECTION

SERIAL NUMBER: 10/501,838

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 ☐ **Wrapped Nucleics  
Wrapped Aminos** The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 ☐ **Invalid Line Length** The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 ☐ **Misaligned Amino  
Numbering** The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 ☐ **Non-ASCII** The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 ☒ **Variable Length** Sequence(s) 20, 21 (maybe more) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 ☐ **PatentIn 2.0  
"bug"** A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) \_\_\_\_\_. Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 ☐ **Skipped Sequences  
(OLD RULES)** Sequence(s) \_\_\_\_ missing. If intentional, please insert the following lines for each skipped sequence:  
(2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
(i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
This sequence is intentionally skipped  
  
Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 ☐ **Skipped Sequences  
(NEW RULES)** Sequence(s) \_\_\_\_ missing. If intentional, please insert the following lines for each skipped sequence.  
<210> sequence id number  
<400> sequence id number  
000
- 9 ☐ **Use of n's or Xaa's  
(NEW RULES)** Use of n's and/or Xaa's have been detected in the Sequence Listing.  
Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 10 ☐ **Invalid <213>  
Response** Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 ☐ **Use of <220>** Sequence(s) \_\_\_\_ missing the <220> "Feature" and associated numeric identifiers and responses.  
Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 ☐ **PatentIn 2.0  
"bug"** Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 ☐ **Misuse of n/Xaa** "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



PCT

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/501,838

DATE: 01/26/2005

TIME: 14:34:15

Input Set : A:\24348-501NATL.ST25.txt

Output Set: N:\CRF4\01262005\J501838.raw

3 <110> APPLICANT: Ben-Sasson, Shmuel A.  
4 Cohen, Einat  
6 <120> TITLE OF INVENTION: Amino Acid Sequences Capable of Facilitating Penetration  
cross a  
7 Biological Barrier  
9 <130> FILE REFERENCE: 24348-501 NATL  
11 <140> CURRENT APPLICATION NUMBER: US 10/501,838  
--> 12 <141> CURRENT FILING DATE: 2004-07-19  
14 <150> PRIOR APPLICATION NUMBER: PCT/IB03/00968  
15 <151> PRIOR FILING DATE: 2003-02-07  
17 <150> PRIOR APPLICATION NUMBER: US 60/355,396  
18 <151> PRIOR FILING DATE: 2002-02-07  
20 <160> NUMBER OF SEQ ID NOS: 72  
22 <170> SOFTWARE: PatentIn version 3.2  
24 <210> SEQ ID NO: 1  
25 <211> LENGTH: 23  
26 <212> TYPE: PRT  
27 <213> ORGANISM: Haemophilus influenzae  
29 <400> SEQUENCE: 1  
31 Asn Tyr His Asp Ile Val Leu Ala Leu Ala Gly Val Cys Gln Ser Ala  
32 1 5 10 15  
35 Lys Leu Val His Gln Leu Ala  
36 20  
39 <210> SEQ ID NO: 2  
40 <211> LENGTH: 23  
41 <212> TYPE: PRT  
42 <213> ORGANISM: Pasteurella multocida  
44 <400> SEQUENCE: 2  
46 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Val Cys Gln Ala Ala  
47 1 5 10 15  
50 Lys Leu Val Gln Gln Phe Ala  
51 20  
54 <210> SEQ ID NO: 3  
55 <211> LENGTH: 23  
56 <212> TYPE: PRT  
57 <213> ORGANISM: Escherichia coli  
59 <400> SEQUENCE: 3  
61 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala  
62 1 5 10 15  
65 Arg Leu Val Gln Gln Leu Ala  
66 20  
69 <210> SEQ ID NO: 4  
70 <211> LENGTH: 23  
71 <212> TYPE: PRT

Does Not Comply  
Corrected Diskette Needed

PP. 56

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/501,838

DATE: 6/2005  
TIME: 10:34:15

Input Set : A:\24348-501NATL.ST25.txt  
Output Set: N:\CRF4\01262005\J501838.raw

72 <213> ORGANISM: Vibrio cholerae  
74 <400> SEQUENCE: 4  
76 Ala Ile Tyr Asp Arg Thr Ile Ala Phe Ala Gly Ile Cys Gln Ala Val  
77 1 5 10 15  
80 Ala Leu Val Gln Gln Val Ala  
81 20  
84 <210> SEQ ID NO: 5  
85 <211> LENGTH: 23  
86 <212> TYPE: PRT  
87 <213> ORGANISM: Buchnera aphidicola  
89 <400> SEQUENCE: 5  
91 Lys Ile His Leu Ile Thr Leu Ser Leu Ala Gly Ile Cys Gln Ser Ala  
92 1 5 10 15  
95 His Leu Val Gln Gln Leu Ala  
96 20  
99 <210> SEQ ID NO: 6  
100 <211> LENGTH: 23  
101 <212> TYPE: PRT  
102 <213> ORGANISM: Pseudomonas aeruginosa  
104 <400> SEQUENCE: 6  
106 Asp Pro Arg Gln Gln Leu Ile Ala Leu Gly Ala Val Phe Glu Ser Ala  
107 1 5 10 15  
110 Ala Leu Val Asp Lys Leu Ala  
111 20  
114 <210> SEQ ID NO: 7  
115 <211> LENGTH: 23  
116 <212> TYPE: PRT  
117 <213> ORGANISM: Xylella fastidiosa  
119 <400> SEQUENCE: 7  
121 Leu Ile Asp Asn Arg Val Leu Ala Leu Ala Gly Val Val Gln Ala Leu  
122 1 5 10 15  
125 Gln Gln Val Arg Gln Ile Ala  
126 20  
129 <210> SEQ ID NO: 8  
130 <211> LENGTH: 23  
131 <212> TYPE: PRT  
132 <213> ORGANISM: Rhizobium loti  
134 <400> SEQUENCE: 8  
136 Asn Leu Pro Pro Ile Val Leu Ala Val Ile Gly Ile Cys Ala Ala Val  
137 1 5 10 15  
140 Phe Leu Leu Gln Gln Tyr Val  
141 20  
144 <210> SEQ ID NO: 9  
145 <211> LENGTH: 23  
146 <212> TYPE: PRT  
147 <213> ORGANISM: Homo sapiens  
149 <400> SEQUENCE: 9  
151 Asn Tyr Phe Ile Val Asn Leu Ala Leu Ala Asp Leu Cys Met Ala Ala  
152 1 5 10 15

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/501,838

DATE: 06/2005  
TIME: 14:34:15

Input Set : A:\24348-501NATL.ST25.txt  
Output Set: N:\CRF4\01262005\J501838.raw

155 Phe Asn Ala Ala Phe Asn Phe  
156 20  
159 <210> SEQ ID NO: 10  
160 <211> LENGTH: 23  
161 <212> TYPE: PRT  
162 <213> ORGANISM: Chlamydia pneumoniae  
164 <400> SEQUENCE: 10  
166 Thr Ala Phe Asp Phe Asn Lys Met Leu Asp Gly Val Cys Thr Tyr Val  
167 1 5 10 15  
170 Lys Gly Val Gln Gln Tyr Leu  
171 20  
174 <210> SEQ ID NO: 11  
175 <211> LENGTH: 23  
176 <212> TYPE: PRT  
177 <213> ORGANISM: Rhizobium loti  
179 <400> SEQUENCE: 11  
181 Arg Ala Ile Leu Ile Pro Leu Ala Leu Ala Gly Leu Cys Gln Val Ala  
182 1 5 10 15  
185 Arg Ala Gly Asp Ile Ser Ser  
186 20  
189 <210> SEQ ID NO: 12  
190 <211> LENGTH: 25  
191 <212> TYPE: PRT  
192 <213> ORGANISM: Bacillus subtilis  
194 <400> SEQUENCE: 12  
196 Met Arg Asn Leu Thr Lys Thr Ser Leu Leu Ala Gly Leu Cys Thr  
197 1 5 10 15  
200 Ala Ala Gln Met Val Phe Val Thr His  
201 20 25  
204 <210> SEQ ID NO: 13  
205 <211> LENGTH: 25  
206 <212> TYPE: PRT  
207 <213> ORGANISM: Kingella denitrificans  
209 <400> SEQUENCE: 13  
211 Ile Glu Leu Met Ile Val Ile Ala Ile Ile Gly Ile Leu Ala Ala Ile  
212 1 5 10 15  
215 Ala Leu Pro Ala Tyr Gln Glu Tyr Val  
216 20 25  
219 <210> SEQ ID NO: 14  
220 <211> LENGTH: 25  
221 <212> TYPE: PRT  
222 <213> ORGANISM: Eikenella corrodens  
224 <400> SEQUENCE: 14  
226 Ile Glu Leu Met Ile Val Ile Ala Ile Ile Gly Ile Leu Ala Ala Ile  
227 1 5 10 15  
230 Ala Leu Pro Ala Tyr Gln Asp Tyr Val  
231 20 25  
234 <210> SEQ ID NO: 15  
235 <211> LENGTH: 16

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/501,838

DATE: 06/2005  
TIME: 13:34:15

Input Set : A:\24348-501NATL.ST25.txt  
Output Set: N:\CRF4\01262005\J501838.raw

236 <212> TYPE: PRT  
237 <213> ORGANISM: Zonula occludens toxin  
239 <400> SEQUENCE: 15  
241 Ala Ser Phe Gly Phe Cys Ile Gly Arg Leu Cys Val Gln Asp Gly Phe  
242 1 5 10 15  
245 <210> SEQ ID NO: 16  
246 <211> LENGTH: 4  
247 <212> TYPE: PRT  
248 <213> ORGANISM: Artificial sequence  
250 <220> FEATURE:  
251 <223> OTHER INFORMATION: Cleavable linker peptide  
253 <400> SEQUENCE: 16  
255 Ile Glu Gly Arg  
256 1  
259 <210> SEQ ID NO: 17  
260 <211> LENGTH: 6  
261 <212> TYPE: PRT  
262 <213> ORGANISM: Artificial sequence  
264 <220> FEATURE:  
265 <223> OTHER INFORMATION: Cleavable linker peptide  
267 <400> SEQUENCE: 17  
269 Gly Gly Lys Gly Gly Lys  
270 1 5  
273 <210> SEQ ID NO: 18  
274 <211> LENGTH: 30  
275 <212> TYPE: PRT  
276 <213> ORGANISM: Artificial sequence  
278 <220> FEATURE:  
279 <223> OTHER INFORMATION: Penetrating peptide/recombinant insulin chimera  
282 <220> FEATURE:  
283 <221> NAME/KEY: misc\_feature  
284 <222> LOCATION: (30)..(30)  
285 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
287 <400> SEQUENCE: 18  
289 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala  
290 1 5 10 15  
--> 293 Arg Leu Val Gln Gln Leu Ala Gly Gly Ile Glu Gly Arg Xaa  
294 20 25 30  
297 <210> SEQ ID NO: 19  
298 <211> LENGTH: 26  
299 <212> TYPE: PRT  
300 <213> ORGANISM: Artificial  
302 <220> FEATURE:  
303 <223> OTHER INFORMATION: Penetrating peptide/recombinant insulin chimera  
306 <220> FEATURE:  
307 <221> NAME/KEY: misc\_feature  
308 <222> LOCATION: (26)..(26)  
309 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid  
311 <400> SEQUENCE: 19

Input Set : A:\24348-501NATL.ST25.txt  
Output Set : N:\CRF4\01262005\J501838.raw

```
313 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
314 1 5 10 15
--> 317 Arg Leu Val Gln Gln Leu Ala Gly Gly Xaa
318 20 25
321 <210> SEQ ID NO: 20
322 <211> LENGTH: 31
323 <212> TYPE: PRT
324 <213> ORGANISM: Artificial
326 <220> FEATURE:
327 <223> OTHER INFORMATION: Penetrating peptide/heparin chimera
330 <220> FEATURE:
331 <221> NAME/KEY: PEPTIDE
332 <222> LOCATION: (31)..(31)
333 <223> OTHER INFORMATION: Wherein Xaa is a heparin polypeptide
335 <220> FEATURE:
336 <221> NAME/KEY: misc_feature
337 <222> LOCATION: (31)..(31)
338 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid
340 <400> SEQUENCE: 20
342 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
343 1 5 10 15
--> 346 Arg Leu Val Gln Gln Leu Ala Gly Gly Ile Glu Gly Arg Lys Xaa
347 20 25 30
350 <210> SEQ ID NO: 21
351 <211> LENGTH: 27
352 <212> TYPE: PRT
353 <213> ORGANISM: Artificial
355 <220> FEATURE:
356 <223> OTHER INFORMATION: Penetrating peptide/heparin chimera
359 <220> FEATURE:
360 <221> NAME/KEY: PEPTIDE
361 <222> LOCATION: (27)..(27)
362 <223> OTHER INFORMATION: Wherein Xaa is a heparin polypeptide
364 <220> FEATURE:
365 <221> NAME/KEY: misc_feature
366 <222> LOCATION: (27)..(27)
367 <223> OTHER INFORMATION: Xaa can be any naturally occurring amino acid
369 <400> SEQUENCE: 21
371 Asn Tyr Tyr Asp Ile Thr Leu Ala Leu Ala Gly Ile Cys Gln Ser Ala
372 1 5 10 15
--> 375 Arg Leu Val Gln Gln Leu Ala Gly Gly Lys Xaa
376 20 25
379 <210> SEQ ID NO: 22
380 <211> LENGTH: 32
381 <212> TYPE: PRT
382 <213> ORGANISM: Artificial
384 <220> FEATURE:
385 <223> OTHER INFORMATION: Penetrating peptide
388 <220> FEATURE:
```

"Xaa" can only represent a single amino acid (see item 5 on Error summary sheet)

same error  
Please correct this type of error in subsequent sequences.

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

give source of genetic material (see item 11 on Error summary sheet)

The types of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

Input Set : A:\24348-501NATL.ST25.txt  
Output Set : N:\CRF4\01262005\J501838.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> or <223> fields of each sequence which presents at least one n or Xaa.

seq#:18; Xaa Pos. 30  
seq#:19; Xaa Pos. 26  
seq#:20; Xaa Pos. 31  
seq#:21; Xaa Pos. 27  
seq#:22; Xaa Pos. 1,32  
seq#:23; Xaa Pos. 26  
seq#:30; Xaa Pos. 1,32  
seq#:31; Xaa Pos. 1,32  
seq#:32; Xaa Pos. 1,32  
seq#:33; Xaa Pos. 1,32  
seq#:34; Xaa Pos. 1,31  
seq#:35; Xaa Pos. 1,34  
seq#:36; Xaa Pos. 1,32  
seq#:37; Xaa Pos. 1,31  
seq#:38; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16  
seq#:39; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:39; Xaa Pos. 23  
seq#:40; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:40; Xaa Pos. 23  
seq#:41; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:41; Xaa Pos. 23  
seq#:42; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:42; Xaa Pos. 23,24,25  
seq#:43; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:43; Xaa Pos. 23  
seq#:44; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:44; Xaa Pos. 23  
seq#:45; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:45; Xaa Pos. 23  
seq#:46; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:46; Xaa Pos. 23,24  
seq#:47; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:47; Xaa Pos. 23,24,25  
seq#:48; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:48; Xaa Pos. 23  
seq#:49; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:49; Xaa Pos. 23  
seq#:50; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:50; Xaa Pos. 23,24,25,26  
seq#:51; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:51; Xaa Pos. 23,24,25,26,27,28  
seq#:52; Xaa Pos. 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22  
seq#:52; Xaa Pos. 23

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/501,838

DATE: 1/26/2005  
TIME: 11:34:16

Input Set : A:\24348-501NATL.ST25.txt  
Output Set: N:\CRF4\01262005\J501838.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,  
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:19,20,21,22,23,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48  
Seq#:49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71

## VERIFICATION SUMMARY

PATENT APPLICATION: US/10/501,838

DATE: 02/26/2005

TIME: 11:34:16

Input Set : A:\24348-501NATL.ST25.txt

Output Set: N:\CRF4\01262005\J501838.raw

:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
:293 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:16  
:317 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:16  
:346 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:16  
:375 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:16  
:410 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0  
:341 Repeated in SeqNo=22  
:443 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:23 after pos.:16  
:568 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0  
:341 Repeated in SeqNo=30  
:607 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:31 after pos.:0  
:341 Repeated in SeqNo=31  
:646 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:32 after pos.:0  
:341 Repeated in SeqNo=32  
:685 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:33 after pos.:0  
:341 Repeated in SeqNo=33  
:724 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
:341 Repeated in SeqNo=34  
:763 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
:341 Repeated in SeqNo=35  
:806 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0  
:341 Repeated in SeqNo=36  
:845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:37 after pos.:0  
:341 Repeated in SeqNo=37  
:949 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:38 after pos.:0  
:1049 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:39 after pos.:0  
:341 Repeated in SeqNo=39  
:1133 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:40 after pos.:0  
:341 Repeated in SeqNo=40  
:1217 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:41 after pos.:0  
:341 Repeated in SeqNo=41  
:1286 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:42 after pos.:0  
:341 Repeated in SeqNo=42  
:1380 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:43 after pos.:0  
:341 Repeated in SeqNo=43  
:1444 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:44 after pos.:0  
:341 Repeated in SeqNo=44  
:1528 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45 after pos.:0  
:341 Repeated in SeqNo=45  
:1642 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:46 after pos.:0  
:341 Repeated in SeqNo=46  
:1741 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:47 after pos.:0  
:341 Repeated in SeqNo=47  
:1835 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0  
:341 Repeated in SeqNo=48  
:1914 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49 after pos.:0  
:341 Repeated in SeqNo=49  
:2030 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:50 after pos.:0

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/501,838

DATE: 1/26/2005

TIME: 10:34:16

Input Set : A:\24348-501NATL.ST25.txt

Output Set: N:\CRF4\01262005\J501838.raw

.:341 Repeated in SeqNo=50

.:2144 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51 after pos.:0

.:341 Repeated in SeqNo=51



## UNITED STATES PATENT AND TRADEMARK OFFICE

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U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/501,838	Shmuel A Ben-Sasson	24348-501 NATL

INTERNATIONAL APPLICATION NO.	
PCT/IB03/00968	
LA. FILING DATE	PRIORITY DATE
02/07/2003	02/07/2002

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 Mintz Levin Cohn Ferris Glovsky and Popeo PC  
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 Boston, MA 02111

CONFIRMATION NO. 6386

371 FORMALITIES LETTER



\*OC00000015185458\*

Date Mailed: 02/16/2005

## NOTIFICATION OF DEFECTIVE RESPONSE

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495)

- Indication of Small Entity Status
- Priority Document
- Copy of the International Application filed on 07/19/2004
- Copy of the International Search Report filed on 07/19/2004
- Preliminary Amendments filed on 11/29/2004
- Biochemical Sequence Diskette filed on 11/29/2004
- Oath or Declaration filed on 11/29/2004
- Biochemical Sequence Listing filed on 11/29/2004
- Small Entity Statement filed on 07/19/2004
- Request for Immediate Examination filed on 07/19/2004
- U.S. Basic National Fees filed on 07/19/2004
- Power of Attorney filed on 11/29/2004

Done By	PM
<input checked="" type="checkbox"/> Data Entry	
<input checked="" type="checkbox"/> Docket Entry	
<input type="checkbox"/> Docket Cross Off	3/27/05
<input type="checkbox"/> Previously Entered	4/27/05
<input type="checkbox"/> No Docketing Req	
<input type="checkbox"/> ELITE	
<input type="checkbox"/> Annuites	

Applicant's response filed 11/29/2004 is hereby acknowledged. The following requirements set forth in the NOTIFICATION of MISSING REQUIREMENTS mailed 09/27/2004 have not been completed.

The following items **MUST** be furnished within the period set forth below:

- The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821-1.825 for the following reason(s):
  - A copy of the "Sequence Listing" in computer readable form has been submitted. The content of the computer readable form, however, does not comply with the requirements of Annex C of the Administrative Instructions and 37 CFR 1.822 and/or 1.832, as indicated on the attached marked-up copy of the "Raw Sequence Listing."
  - The Biotechnology Systems Branch of the Scientific and Technical Information Division has identified errors when processing the computer readable form.
  - APPLICANT MUST PROVIDE:
    - An initial or substitute paper copy or compact disc of the "Sequence Listing," as well as an

RECEIVED

APR 02 2005  
 MINTZ LEVIN, BOSTON  
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amendment of its entry into the specification.

- For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:
  - For Rules Interpretation, call (703) 308-4216
  - To Purchase PatentIn Software, call (703) 306-2600
  - For PatentIn Software Program Help, call (703) 306-4119 or e-mail at [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or [patin3help@uspto.gov](mailto:patin3help@uspto.gov)

**Applicant is required to complete the response within a time limit of ONE MONTH from the date of this Notification or within the time remaining in the response set forth in the Notification of Missing Requirements, whichever is the longer. No extension of this time limit may be granted under 37 CFR 1.136, but the period for response set in the Notification of Missing Requirements may be extended under 37 CFR 1.136(a).**

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

WINSTON M ALVARADO

Telephone: (703) 308-9140 EXT 206

**PART 1 - ATTORNEY/APPLICANT COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/501,838	PCT/IB03/00968	24348-501 NATL